

Energy Storage Safety Outreach and Incident Response Working Group Meeting

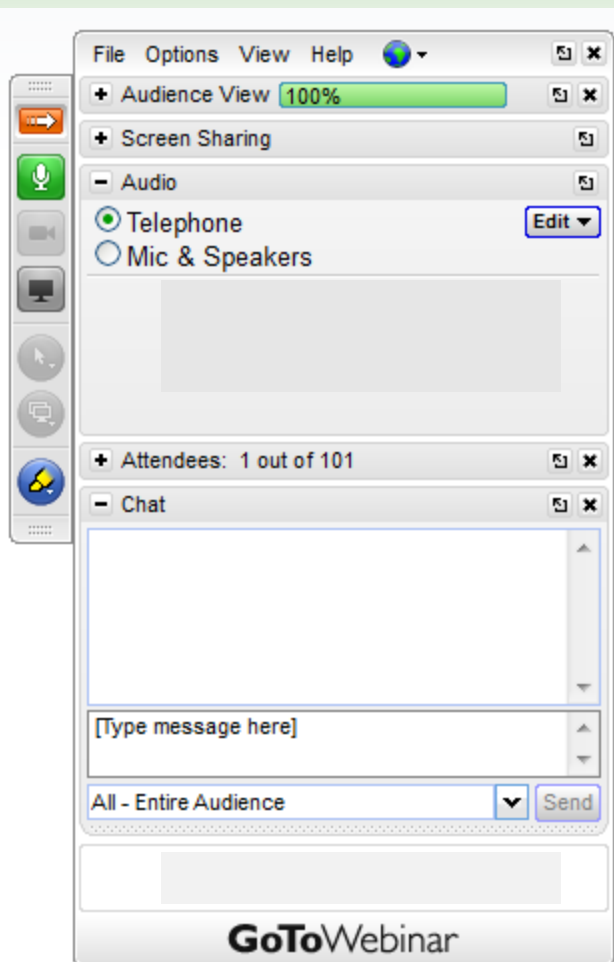
August 10, 2015

Hosted by

David Rosewater
Sandia National Laboratories
On Behalf of the ESSWG

SAND2015-6686 PE

GotoMeeting Housekeeping



- All participant lines are open. Please mute your line if you are not speaking.
- During the discussion, please identify yourself each time you speak.
- If you have a question or need assistance during the meeting, please send a message to “Kelley Allen” in the chat box at the bottom of the menu.

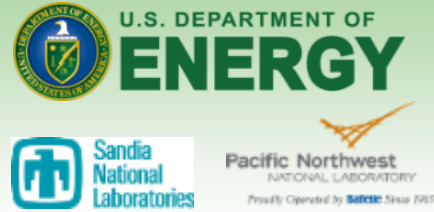
This webinar is being recorded but will not be distributed.

Energy Storage Safety Working Group (ESSWG) Webinar Agenda



12:30 pm – 12:35 pm	Welcome and GotoWebinar House Keeping
12:35 pm – 12:45 pm	Welcome and Introductory Comments (<i>David Rosewater, SNL</i>) <ul style="list-style-type: none">- Introductions- Agenda Overview
12:45 pm – 01:00 pm	SO&IR WG Framework Overview (<i>David Rosewater, SNL</i>) <ul style="list-style-type: none">- Tasks and Task Descriptions
01:00 pm – 01:15 pm	Opportunities in Safety Outreach SO&IR (<i>Group Discussion</i>)
01:15 pm – 01:25 pm	Matching experts to tasks and opportunities (<i>Group Discussion</i>) <ul style="list-style-type: none">- Complied Safety Gap Matrix- Prioritization approach and definition
01:25 pm – 01:30 pm	Summary and Next Steps (<i>David Rosewater, SNL</i>) <ul style="list-style-type: none">- General Outcomes- Next Meeting

Energy Storage Safety Outreach and Incident Response Working Group Scope of Work



- Supported by DOE Office of Electricity Energy Storage Program
- DOE OE Energy Storage Safety Plan developed by ESS WG and focused on safety associated with all stationary ESS
- Projects to address gaps, needs and opportunities in three areas:
 - Safety Validation and Risk Assessment (Ferreira SNL)
 - Codes and Standards (Conover PNNL)
 - **Safety Outreach and Incident Response (Rosewater SNL)**

Energy Storage Safety Outreach and Education Working Group



POC: David Rosewater, Email: dmrose@sandia.gov, Phone: 505 844 3722

Topical Area - Safety Outreach and Incident Response

- **Outline and implement a plan to educate, engage, and train stakeholder communities** on applying criteria and practices to ensure that systems are safe when placed into service and the first-responder community is equipped to respond, if there is an incident.

Proposed Organization

- Facilitated Web-Based Meetings Held Monthly (at first)
- Tackle the Top Issues First
- Work Closely with the Other Working Groups
- Materials will be reviewed by Sandia/PNNL and made available on stakeholders and industry websites
- **Most Important:** Materials will be made available to key stakeholders (fire-fighters, electrical inspectors, regulators, etc.)

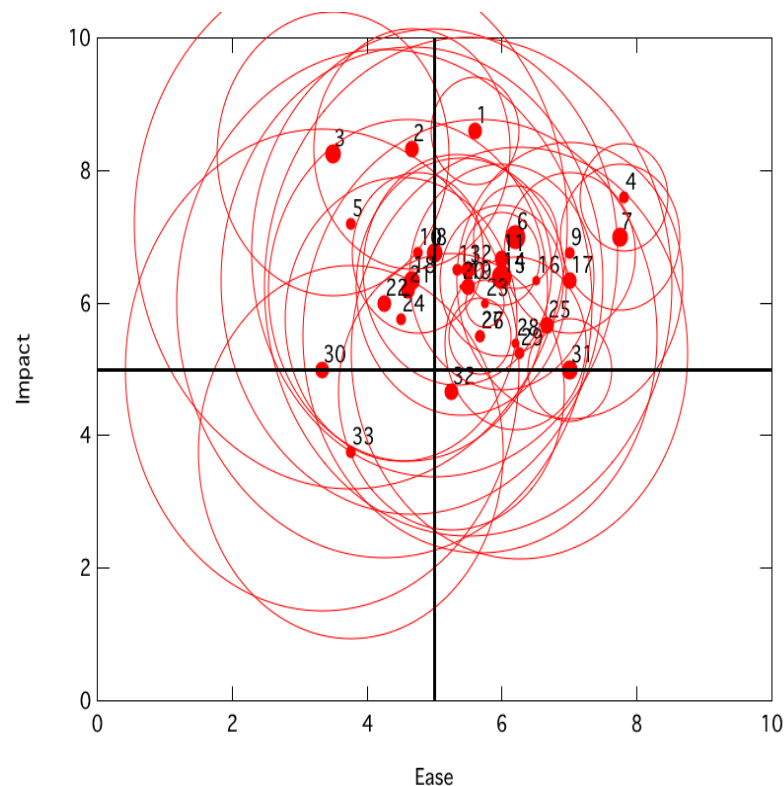
Energy Storage Safety Outreach and Education Working Group (cont'd)



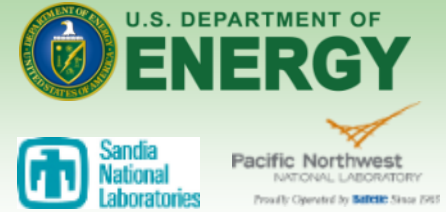
Top Issues in Safety Outreach and Incident Response

- A. Provide guidance and information on ESS installation and protection design
- B. Provide guidance and information operational safety including thermal management
- C. Develop first responder training material for responding to an ESS fire
- D. Develop guidance and information on ESS safety analysis through energy storage websites, the ESS Handbook, and by offering safety analysis courses to developers and startups
- E. Promote first responder knowledge and confidence by developing a template for providing information to and working with local fire departments and by make safe methods available to first responder groups through demonstration (practice system fire), videos, guides, and courses.
- F. Provide links to educational material on cyber security on energy storage websites
- G. Provide guidance and information on the safe transportation/delivery of energy storage systems

Safety Outreach and Incident Response Quad Chart



Task A: Provide guidance and information on ESS installation and protection design



Team: needs volunteers

Description: The goal of this project is to develop stakeholder knowledge of energy storage system installation and protection design. This will include development and collection of informative materials, outreach to stakeholders such as inspectors or regulators, and dispelling known myths of energy storage installation. This task will focus on hardware and design issues such as electrical protection, access/egress, clearances, etc.

Status: queued

Task B: Provide guidance and information on operational safety including thermal management

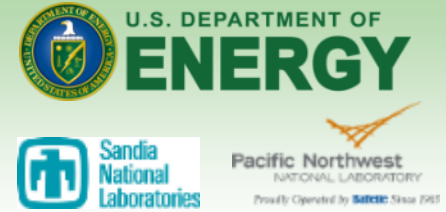


Team: needs volunteers

Description: The goal of this project is to develop stakeholder knowledge of energy storage system operational safety including thermal management. This will include development and collection of informative materials, outreach to stakeholders such as inspectors or regulators, and dispelling known myths of energy storage installation. This task will focus on operation issues such as electrical safety, maintenance, and scheduled/unscheduled outages, as well thermal management issues such as heat generation, shading, and local climate.

Status: queued

Task C: Develop first responder training material for responding to an ESS fire

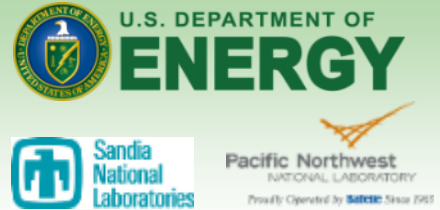


Team: needs volunteers

Description: Develop a guide, presentation packet, and reference material to provide to fire fighters and other first responders whose area may soon include energy storage technologies. Collect and reference material on extinguishing engulfed batteries and power electronics, when it is safe to do so. Help identify risk assessment models for responding to incidents involving batteries and other energy storage technologies.

Status: queued

Task D: Develop guidance and information on ESS safety analysis through energy storage websites, the ESS Handbook, and by offering safety analysis courses to developers and startups



Task E: Promote first responder knowledge and confidence by developing a template for providing information to and working with local fire departments and by make safe methods available to first responder groups through demonstration (practice system fire), videos, guides, and courses.

Task F: Provide links to educational material on cyber security on energy storage websites

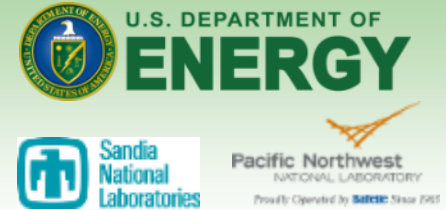
Task G: Provide guidance and information on the safe transportation/delivery of energy storage systems

Opportunities in Safety Outreach and Incident Response



- California PUC meeting
- IAEI for help with a magazine/publication
- ...Discussion ...
 - Enter into the chat window if you know of an opportunity for outreach (conference, magazine, publication, meeting, etc.) and I will list entries out on my screen.
- NYC – NFPA workshop for firefighters and first responders
 - November ~18-19th

Matching Experts to Tasks and Opportunities



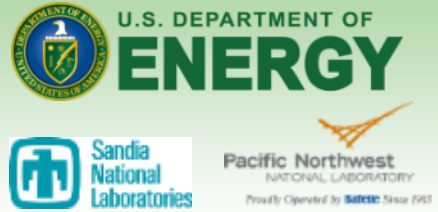
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Outcomes and Next Steps

- Outcomes from this meeting
- Stay engaged
- Final questions? (chat window)



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